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EXAMINER

KNOLL, CLIFFORD H

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,817

Applicant(s)

BARRENSCHEEN ET AL.

Examiner

Clifford H Knoll

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to communication filed 2/23/04. Currently claims 1-92 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

The drawings remain objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown:

In claims 1, 24, 47, and 70, the "transmitting..." the "region defining a given time slot", the "specific information", the "settings selected from the group consisting of..." all must be shown in the drawings.

In claims 2-7, 9-23, 25-30, 32-46, 48-53, 55-69, 71-92, each and every recited feature is not shown in the drawings.

No new matter should be entered; otherwise the features should be canceled from the claim(s).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The substitute specification filed 2/23/04 has been entered.

Claim Rejections - 35 USC § 112

Rejection under 35 USC 112, second paragraph has been withdrawn.

Claims 1-92 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claims 1, 24, 47, and 70, the method and apparatus for forming the units, and for defining or determining settings has no basis for enablement in the specification. Instead the specification reintroduces the claims using such language as "the device is designed in such a way that the data to be transmitted can be transmitted...." (paragraphs [0047], [0048]) without specifying how such design is intended. While a description of frames, as disclosed in Figure 2, and claims 8, 31, 54, and 77 can be found in the specification, there is inadequate disclosure of the means by which units

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are formed "partly with at least one region defining a given time slot" (see claims 1 and 24).

The remaining claims introduce limitations that lack enablement in the specification.

The specification is replete with reiteration of language recited in the claims, but lacking the supporting disclosure that would enable the invention.

Claim Rejections - 35 USC § 101

The rejection under this section has been withdrawn.

Claim Rejections - 35 USC § 102

Claims 1-6, 8-29, 31-51, 53-74, 76-92 stand rejected under 35 U.S.C. 102(e) as being anticipated by Deng (US 6347097).

Regarding claims 1 and 24, Deng discloses transmitting in units data from a first device to one or more second devices together with information (e.g., col.6, lines 34-40); forming units at least partly with at least one region defining a given time slot within which the devices transmitting no data can output data representing specific information (e.g., col.6, lines 29-32; Figure 4, "subaction gap"), defining in the enabled devices, settings selected from the group consisting of a setting to determine under which conditions data are to be output within the given time slot, a setting which data representing information are to be output within the given time slot and a setting at which points in time within the time slot the data are to be output (e.g., col.4, lines 47-52, "generation of a 'cycle' signal"; col.4, lines 55-57, "one node at a time").

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Regarding claim 47 and 70, Deng discloses transmitting data with information where some of the units are formed with at least one region defining a time slot within which the device can output onto the bus data representing specific information (e.g., col.6, lines 34-40), determining settings selected from the group consisting of a setting to determine under which conditions data are to be output within the given time slot, a setting which data representing information are to be output within the given time slot and a setting at which points in time within the time slot the data are to be output (e.g., col.4, lines 47-52, "generation of a 'cycle' signal"; col.4, lines 55-57, "one node at a time").

Regarding claims 2, 25, 48, and 71, Deng also discloses determining settings before transmission (e.g., col.4, lines 47-52).

Regarding claims 3, 26, 49, and 72, Deng also discloses with one or more devices connected to the bus (e.g., col.3, lines 56-57).

Regarding claims 4, 27, 50, and 73, Deng also discloses determining settings based on one of data and instructions transmitted (e.g., col.4, lines 47-52).

Regarding claims 5, 28, 51, and 74, Deng also discloses determining settings upon initializing the devices (e.g., col.4, lines 47-52).

Regarding claims 6, 29, 52, and 75, Deng also discloses settings are variable settings (e.g., col.6, lines 29-34, "may then respond immediately if it already controls the bus").

Regarding claims 8, 31, 54, and 77, Deng also discloses frames (e.g., Figure 6).

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Regarding claims 9, 32, 55, and 78, Deng also discloses messages (e.g., Figure 5, "acknowledge").

Regarding claims 10, 33, 56, and 79, Deng also discloses serial transmission at a clock rate (e.g., col.1, lines 39-40).

Regarding claims 11, 34, 57, and 80, Deng also discloses determining with the data and information contained in the units containing the data to be transmitted together with the information whether certain devices output information onto the bus at which points in time (e.g., col.4, lines 47-52, "generation of a 'cycle' signal"; col.4, lines 55-57, "one node at a time").

Regarding claims 12, 35, 58, and 81, Deng also discloses determining with the data and information contained in units output (e.g., col.6, lines 29-32).

Regarding claims 13, 36, 59, and 82, Deng also discloses defining the given time slot for transmission of one or more bits (e.g., col.6, lines 34-40).

Regarding claims 14, 37, 60, and 83, Deng also discloses a positive acknowledge bit (e.g., col.7, lines 51-54).

Regarding claims 15, 38, 61, and 84, Deng also discloses acknowledging fault free reception by outputting a positive acknowledgement bit onto the bus (e.g., col.7, lines 51-54).

Regarding claims 16, 39, 62, and 85, Deng also discloses having to acknowledge fault free reception by outputting a positive acknowledge bit, the plurality set such that the positive acknowledge bits are output by the plurality of devices at different points in time if appropriate (e.g., Figure 4, "ACK").

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Regarding claims 17, 40, 63, and 86, Deng also discloses devices for which the data is not intended do not output any data onto the bus at least at the points in time at which the devices for which the data transmitted via the bus is intended must be able to acknowledge the fault-free reception of data (e.g., Figure 4, "ACK GAP"; col.4, lines 55-57).

Regarding claims 18, 41, 64, and 87, Deng also discloses a negative acknowledge bit (e.g., col.7, lines 51-54).

Regarding claims 19, 42, 65, and 88, Deng also discloses exclusively devices for which the data transmitted via the bus is intended to signal non-fault free reception of the data (e.g., col.7, lines 51-54).

Regarding claims 20, 43, 66, and 89, Deng also discloses they have to signal the non-fault free reception of the data by outputting a negative acknowledge bit at least some of the plurality of the devices are set such that they output at the same time the negative acknowledge bits that are to be output if appropriate (e.g., col.6, lines 45-52, "ack-gap").

Regarding claims 21, 44, 67, and 90, Deng also discloses devices for which the data transmitted is not intended do not output any data (e.g., col.6, lines 49-52).

Regarding claims 22, 45, 68, and 91, Deng also discloses devices output positive acknowledge bits at different points in time or negative acknowledge bits at other different points in time (e.g., col.7, lines 51-54).

Regarding claims 23, 46, 69, and 92, Deng also discloses devices set such that a content of the current frame or of a specific preceding frame or the content of the

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current message determines which of the devices has to output which information onto the bus at which point in time (e.g., col.6, lines 3-12).

Thus are claims 1-6, 8-29, 31-51, 53-74, 76-92 rejected.

Claim Rejections - 35 USC § 103

Claims 7, 30, 52, and 75 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Deng in view of Levy (US 6212633).

Regarding claims 7, 30, 52, 75, Deng does not expressly mention the implementational detail of a non-volatile memory device; however these devices are widely known and appreciated in the field for storing information, as exemplified by Levy. Levy discloses storing the settings relating to the given time slot in non-volatile memory devices (e.g., col.18, lines 4-13).

It would be obvious to combine Levy with Deng, because Levy teaches a particular use of non-volatile memory in the improvement of storing settings for transmitting data in a 1394 serial bus implementation, such as that taught by Deng. Therefore it would be obvious to one of ordinary skill in the art to combine Levy with Deng at the time the invention was made.

Thus are claims 7, 30, 52, and 75 rejected.

Response to Arguments

Applicant's arguments filed 2/23/04 have been fully considered but they are not persuasive. Applicant's substitute specification has been entered; thus all citations infra of Applicant's specification refer to the substitute specification.

Applicant argues that every recited feature is shown in the drawings. Applicant argues that the "devices are shown connected to a bus in FIG. 1. The devices are designated by the reference symbols N1, N2, ... Nn, and the bus interconnecting these devices is designated by the reference symbol BUS. Furthermore, Fig. 2 shows an exemplary embodiment of the format of a message or of a frame, which is used to transmit data and information" (p. 64). However, in claim 1, Applicant recites "devices to which the data does not concern, and/or one or more third devices, to which the data does concern". While Figure 1 shows devices, there is no Figure item which shows those devices which data does or does not concern, as recited. Applicant further recites "devices, enabled for outputting data within the given time slot"; while devices are shown, no Figure item shows devices as enabled for outputting data within a given time slot. Applicant further recites "settings selected from the group consisting of a setting to determine under which conditions information and/or data are to be output within the given time slot"; which elements have no representation in the Figures. Applicant further recites "a setting to determine which information and/or data are to be output within the given time slot, and a setting to determine at which points in time within the time slot the information and/or data are to be output"; however there are no Figure items which represent these features. Figure 1 shows that devices are connected to

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each other by a bus; while Figure 2 shows a particular arrangement of data in a record.

The details described have no representation in these Figures.

Similarly in claim 24, Applicant recites “devices, to which the data is not intended, and/or one or more third devices, to which the data is intended”; however the disposition of intended or not intended devices is not represented in the Figures.

Similarly in claims 47 and 70, Applicant recites “at least one region defining a time slot within which the device can output onto the bus information and/or data”, “the device contains settings selected from the group consisting of a setting determining under which conditions the device has to output information and/or data within the time slot, a setting determining which information and/or data the device has to output within the time slot, and a setting determining at which points in time within the time slot the information and/or data is to be output”. The Figures contain no representation of any of this recitation, apart from the devices; otherwise, no regions defining, nor any of the determining settings recited.

This is by no means an exhaustive list of recitation not supported by the Figures, but gives a reasonable list of features from the independent claims that are not shown in the Figures. The dependent claims are directed to recitation that likewise lacks representation in the Figures; merely as an example, claims 2-7 recite additional limitations of the settings and their determining; which as already stated are not shown in the Figures.

Therefore, Examiner maintains the objection to the drawings.

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Regarding the title, Applicant argues that METHOD OF TRANSMITTING DATA BETWEEN DEVICES CONNECTED VIA A BUS, AND DEVICE FOR CONNECTION TO OTHER DEVICES VIA A BUS is indicative of the invention; however Examiner disagrees. The title essentially describes that devices are connected to a bus and transmit data on a bus; this interpretation is essentially the definition of a bus. The particular presentation of the title does not distinguish any invention beyond a bus inasmuch as all buses are used to transmit data from one device to another. Precisely that which distinguishes the Applicant's method of transmitting is not indicated. The Abstract refers to regions and time slots and selectable devices. The Summary discloses "transmission that is, on the one hand, very fast and efficient and in which, on the other hand, it is possible to ensure that the data to be transmitted arrive at the target in the fault-free condition" (p. 2, lines 19-22). Claim 1 recites "settings selected from the group consisting of a setting to determine under which conditions information and/or data are to be output within the given time slot"; certainly there is some matter in the invention generally, and in the examples cited that distinguishes the invention (beyond the description that essentially is a bus) and could usefully be incorporated into a title.

Regarding claims rejected under section 112(1) for lack of enablement, Applicant argues that, as disclosed in the specification, "the bus BUS is configured for a transmission of data which takes place sequentially on a bit-by-bit basis" and further that the "devices communicate via the bus and that the bus is supplied on a standard basis with a potential which represents the level 0 and is changed to a different potential 'only' if a bit having the level 1 is to be transmitted via the bus" (cited on p. 65).

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Applicant further cites details of using pull-down or pull-up resistors. Applicant argues that "devices that can receive a series of signals, varying in potential, and can interpret the series of signals to define instructions are also well known in the art" (p. 66).

Examiner will agree that a generic bus and the detection of levels is well-known in the art. Indeed, if Applicant's invention was the construction of a bus with sequential transmission, Examiner agrees that a generic construction is well known in the art. If by this example one is meant to assume the invention is a well-known construction in the art, then it is quite clear that nothing novel has been invented.

One might reasonably surmise the nature of the invention from the express object of the invention. The object of the Applicant's invention is by admission to enable "transmission that is, on the one hand, very fast and efficient and in which, on the other hand, it is possible to ensure that the data to be transmitted arrive at the target in the fault-free condition" (p. 2, lines 19-22). Applicant proceeds to claim "second and third devices, enabled for outputting data within the given time slot, settings selected from the group consisting of a setting to determine under which conditions information and/or data are to be output within the given time slot" (claim 1); however this is not at all addressed by the examples from the specification given by Applicant. Devices are claimed as "enabled for outputting" but literally this feature of the device is not enabled in the specification, nor is the selection of settings from a group enabled. The specification, at its most explicit, discloses that "[t]he device in question here is distinguished by the fact that the device is designed in such a way that the data to be transmitted, together with information which is required or useful for the transmission

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and/or the use of the data" (p. 14, lines 18-23), and later, that "settings are made in the device to determine under which conditions it has to output information and/or data within the time slot" (p. 14, line 26 – p. 15, line 3); however there is no disclosure as to how to make or use the selective outputting or the setting of information without undue experimentation.

The specification as a whole seems to match the level of disclosure seen in the drawings. That is to say, a bus with devices attached as in Figure 1, with a certain level of description of generic bus signaling (cited by Applicant to argue enablement and quoted supra), and a certain level of description that attends to the data fields in Figure 2. However, as to the invention as claimed, the claimed limitations cited supra find scant description in the specification, with assertions that the device is "designed in such a way", but lacking specific disclosure that would enable a person of ordinary skill in the art to be able to make and use the invention without undue experimentation.

This by no means exhausts the range of recited limitations that lack enablement, but bear on the question of enablement in the independent claims.

Thus Examiner maintains rejection under section 112(1) due to lack of enablement.

Regarding the 102 rejection of claim 1 using Deng, Applicant argues that Deng "does not show transmitting data together with information concerning at least one of a transmission and a use of the data" (p. 72); however the cited reference from Deng discloses information as to "the source node sending a data prefix signal, ..., a transaction code,..." (col. 6, lines 34-40) which transaction code is interpreted to be

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"concerning ... a use of the data". Applicant further argues that Deng does not disclose "forming the units with at least one region defining a given time slot within which one or more second devices can output onto the bus specific transmission and/or use information" (p. 72); however Deng at the cited passage discloses "data framing for packet transmission and reception" and further "the generation of a 'cycle' signal utilized for timing and synchronization" (col. 4, lines 47-51) is interpreted as defining a time slot. Applicant further argues that Deng does not disclose "defining, in one or more second devices enabled for outputting data within the given time slot, settings" (p. 72); however Deng at the cited passage discloses "a 'cycle' signal" (col. 4, lines 50-52), which is interpreted as a "setting which determines under which conditions information and/or data are to be output" (Applicant's claim 1).

Thus the rejection of claims 1-6, 8-29, 31-51, 53-74, 76-92 is maintained.

Additionally the section 103 rejection of claims 7, 30, 52, and 75 is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the


shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H Knoll whose telephone number is 703-305-8656. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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